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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,049	11/27/2001	Robert Frigg	8932-573	1188

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EXAMINER

ROBERT, EDUARDO C

ART UNIT PAPER NUMBER

3732

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,049

Applicant(s)

FRIGG ET AL.

Examiner

Eduardo C. Robert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on August 13, 2003 have been approved.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klaue et al. (Reference "AC" on PTO-1449) in view of Frigg et al. (Reference "AS" on PTO-1449).

Klaue et al. disclose a system comprising a bone plate 420 and a bone screw 415. The bone plate comprises an upper surface 424, a bone-contacting surface 423, a plurality of holes 421 extending through the upper and bone-contacting surface. The holes are dimensioned and configured to receive the bone screw 415. At least one of the holes 421 includes an annular protrusion 401 disposed on the bone-contacting surface and at least surrounding the hole (see Figure 8B). The bone plate defines a nominal plate thickness in regions between the holes and the protrusion 401 defines an increased plate thickness that is greater than the nominal plate thickness (see Figure 9). It is suggested in Figure 9 that the increased plate thickness is about 1.5 to about 2 times greater than the nominal plate thickness. The protrusion minimizes contact between the bone-contacting surface and a bone (see Figure 9 and col. 5, lines 37-40). The hole

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defines a central axis and the protrusion 401 tapers radially inward with respect to the central axis in a direction from the upper surface 424 toward the bone-contacting surface. The bone plate also includes an indentation in the upper surface 424 opposite from the protrusion 401 (see Figure 9). The indentation is substantially concentric with the protrusion. Figure 9 suggests that the protrusion tapers radially inward and defines a taper angle of about 40° to about 100°. The hole is provided with internal threads. The bone plate defines a longitudinal axis and the plurality of holes are spaced apart along the longitudinal axis. Klaue et al. disclose the claimed invention except for the threaded holes being tapered radially inward with threads from the upper surface to the lower surface and the screw head having threads complementing with the threaded taper holes. Frigg, et al. disclose a bone plate with threaded holes having threads from an upper surface to a lower surface (see Figure 3) and bone screws with heads (see Figure 1 and 2), wherein the holes are made taper and the heads of the bone screws are made taper and with threads to complement with the threaded taper hole in order to ensure optimal locking between the bone screws and bone plate when the bone screws are used in affixing the bone plate (see page 1, lines 10-13). It would have been obvious to one skill in the art at the time the invention was made to construct the system of Klaue, et al. with the holes of the bone plate being tapered with threads extending from the upper surface to the lower surface and the head screws complementing the tapered holes in view of Frigg et al., in order to ensure optimal locking between the bone screws and bone plate. With regard to claim 4, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to construct the plate of the combination of Klaue et al. as modified by Frigg et al. with the nominal thickness being about 1mm and the extension of the protrusion from the bone-contacting surface being

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about 0.8 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. With regard to claims 12, 14, 18, and 19, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to construct the system of the combination of Klaue et al. as modified by Frigg et al. with the tapered hole having an angle of about 10° to about 30° and the external tapered screw head having a taper angle of about 20°, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

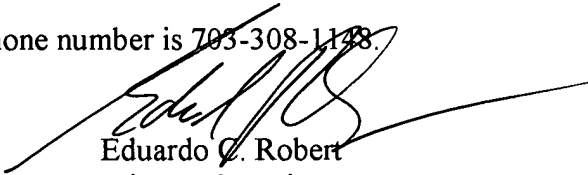
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo C. Robert whose telephone number is 703-305-7333. The examiner can normally be reached on Monday-Friday, 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver can be reached on 703-308-2582. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Eduardo C. Robert
Primary Examiner
Art Unit 3732

E.C.R.